



CASE STUDY

ZAMBIA

ZAMBIA'S COVID-19 VACCINATION SERVICE DELIVERY APPROACH: USING BOTTOM-UP DEMAND GENERATION TO REACH EVERY ELIGIBLE PERSON

Abstract:

Since the first reported case in March 2020, Zambia has endured four waves of COVID-19. As of December 31, 2022, the country had recorded more than 330,000 infections and 4,000 deaths. With the increasing availability of vaccines in low- and middle-income countries following the World Health Organization's COVID-19 Vaccine Delivery Partnership launch in 2022, Zambia set an ambitious target to vaccinate at least 70 percent of its eligible population by June 2022.

COVID-19 Vaccine

DELIVERY PARTNERSHIP



In collaboration with partners, the Ministry of Health developed the National COVID-19 Vaccination Strategy, which began as a multi-tiered approach prioritizing specific populations and advanced to full-fledged static and outreach services through campaigns and as part of mainstream service provision. With support from the USAID DISCOVER-Health Project, implemented by JSI, Zambia fully vaccinated 70% of the eligible population¹ against COVID-19 by September of 2022. JSI provided technical, financial, and logistical resources supporting the whole cascade of health service delivery in six provinces (Lusaka, Copperbelt, Central, North-Western, Muchinga, and Northern). This case study outlines the service delivery approach that enabled Zambia to achieve its vaccination target.

Global COVID-19 vaccination challenges

Vaccine accessibility and affordability varies significantly across countries, with slow and delayed vaccination rollout in low- and middle-income countries (LMICs). In general, the economic status of a nation has determined its vaccination coverage: low-income countries have the lowest coverage, followed by middle-income countries, with the highest coverage observed in high-income countries. After the World Health Organization (WHO) guided that all member states should vaccinate at least 70 percent of the eligible population by mid-2022, vaccine availability in sufficient quality and quantities in all countries became imperative.

The COVID-19 Vaccine Delivery Partnership, including WHO, UNICEF, and Gavi, employed the *One Country Team, One Plan and One Budget* approach. This increased vaccine equity in LMICs by allocating vaccines based on need. However, vaccine availability did not automatically improve coverage: misinformation and disinformation hindered uptake and led to vaccination hesitancy.

Zambia faced this challenge and redefined what vaccine accessibility meant (for example, serving people in their communities and cutting down on their travel to health facilities) and assessed the extent to which hesitancy affected its vaccination program. The government, in collaboration with JSI through the USAID DISCOVER-Health Project and other partners, developed the National COVID-19 Vaccination Deployment Strategy with the objective of fully vaccinating at least 70 percent of eligible Zambians above the age of 12 years by June 2022.

Background & context: Zambia

As of December 31, 2022, Zambia had recorded more than 330,000 COVID-19 infections and 4,000 deaths since the start of the pandemic in March 2020. When the vaccine became available in April 2021, the government launched the National COVID-19 Vaccine Deployment Strategy through the Ministry of Health, which initially aimed to secure enough vaccines to cover 46 percent (8.4 million people) of the total population. It proposed a multi-tiered approach prioritizing populations including but not limited to people who were essential to the COVID-19

¹ Given that no vaccines were approved for children under the age of 12 years in Zambia before December 2021, the Government of the Republic of Zambia quantified the eligible population of Zambia as 10,919,821. Therefore, when we refer to “eligible” populations for vaccination, this refers to the estimated Zambian population aged 12 years, which amounts to 61 percent of the total population. This total has been used as the denominator for coverage calculations throughout this case study.

response, people providing core functions in society, adults aged 65 years and above, people with underlying conditions, and people living in congregate settings.

In November 2021, the Ministry of Health and partners, including USAID DISCOVER-Health, established a vaccination task force that developed a comprehensive implementation model through re-engineering and integrating service provision that included advocacy, communication, and social mobilization to respond to accessibility, hesitancy, and other barriers to vaccine deployment.

Although the Zambian government, in line with WHO guidance, initially planned to vaccinate 30 percent of the eligible population by December 2021 and 70 percent by June 2022, national coverage by early 2022 was only 12.5 percent, largely due to low vaccine availability and hesitancy. In response, the government, with USAID DISCOVER-Health's and other partners' expertise, expanded the eligibility of vaccination to everyone above the age of 12 years and optimized service delivery, moving from the traditional static model in selected health facilities to a more proactive, outreach-based approach to supplement health facility-based static services.

Zambia's response

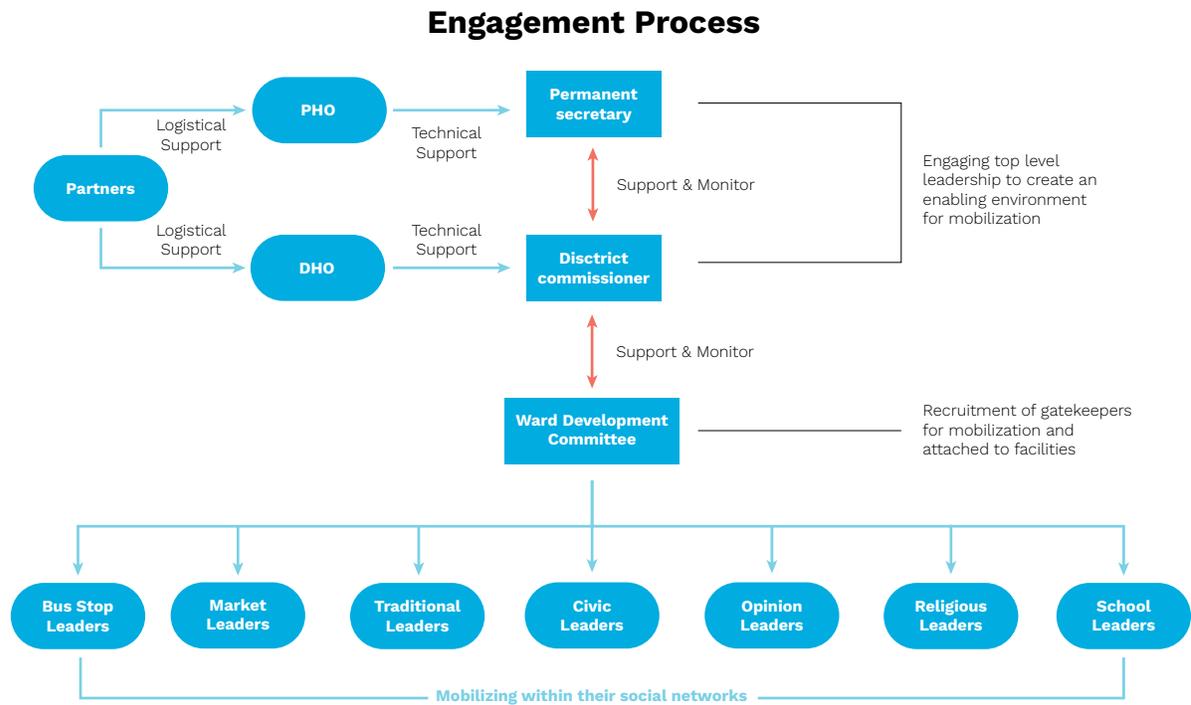
The Ministry of Health, USAID DISCOVER-Health, and other partners planned to conduct two COVID-19 vaccination campaigns interspersed with routine service provision, which predominantly utilized the static service delivery model. The aim was to achieve milestones in the two campaigns that built up to the national vaccination target of 70 percent of the eligible population.

Planning for campaigns and routine service delivery took a bottom-up approach. Each facility was divided into zones and generated a microplan with all inputs and resources to match the vaccination needs of its catchment population. Each zone, the lowest administrative unit of a health facility, was allocated a target population, vaccinators, community health care workers, data clerks, vaccines, and other resources.

Additionally, each zone had a lead person in service provision, social mobilization, community engagement, and data management. All zones had fixed service delivery points (e.g., workplaces, markets, bus-stations, churches, schools) and mobile teams that visited households. Services were delivered in tandem with demand creation and community engagement activities.

USAID DISCOVER-Health made a policy of hiring qualified out-of-work individuals as vaccinators to limit the use of facility staff. Additionally, the project provided a cascade of support (e.g., last-mile distribution, transport and fuel, forms and cards, data entry) to ensure all the required components were in place and functioning.

Service provision was based on advocacy communication and social mobilization among government provincial, district, sub-district, and traditional leadership structures. The graphic below (Figure 1) illustrates the engagement process between district health offices (DHO), provincial health offices (PHO), and implementing partners in leveraging respective civic leadership structures to support mobilization efforts at the lowest administrative unit (ward development committee) for vaccination service delivery.

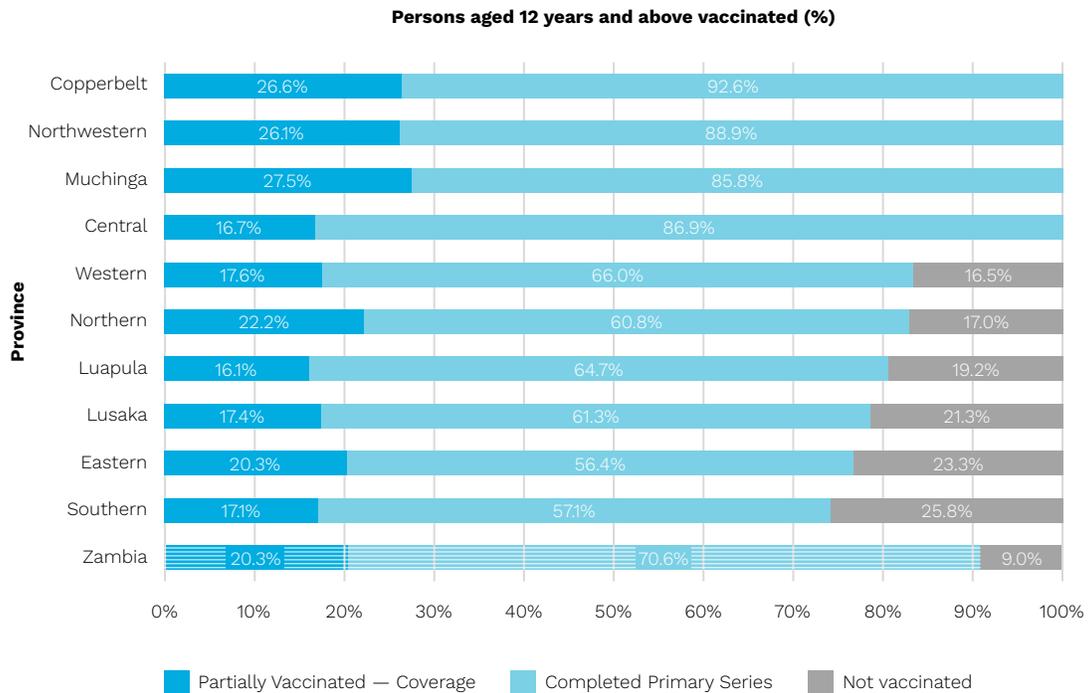
FIGURE 1**Bottom Up Engagement Strategy to Increase Demand for and Access to COVID-19 Vaccination Services.****USAID DISCOVER—Health supported the Ministry of Health on multiple levels:**

- Full-cascade health service delivery.
- Finance and logistics planning.
- National campaign planning and implementation.
- Outreach-based vaccinations, especially in hard-to-reach areas.
- Leadership and community engagement.
- Partnership facilitation.
- Community mobilization.
- Supply chain coordination and last-mile distribution of commodities.
- Activity monitoring and reporting.
- Data management equipment provision and supportive supervision.

USAID DISCOVER-Health first tested the static and outreach-based model in its support to the Copperbelt Province in December 2021, which then later underpinned the successful implementation of the three campaigns in Zambia.

The graph below (Figure 2) illustrates how each province performed in attaining the 70 percent national vaccination coverage by October 16, 2022.

FIGURE 2
Provincial COVID-19 Vaccination Coverage, Oct. 2022.



Outcomes

Benefits

Zambia tested a population-level vaccination model that yielded a high coverage level on an accelerated basis (as compared to the initial static model) without substantial negative consequences to delivery of other health services. COVID-19 vaccines were accessible to all Zambians in the eligible age group at their preferred location. A robust advocacy communication and social mobilization strategy helped dispel COVID-19 mis- and dis-information through trusted community members who had accurate information. All partners were engaged and implementation plans included every community, facilitating routine vaccination after the campaigns. Zambia achieved its 70 percent target by mid-October 2022 through three intensive campaigns of less than 30 days.

COVID-19 infections and associated mortality reduced in the community. For example, when comparing the third (May-September 2021) and fourth (October 2021-February 2022) waves, there was a 60 percent reduction in the number of severe disease incidence at admission to health facilities and 66 percent reduction the number of COVID-19 related deaths.

Challenges

Managing these large-scale, population level campaigns required strong partnerships, detailed planning, government commitment, and a well-financed system capable of supporting large events and real-time performance management and monitoring. These campaigns required additional human resources, which was costly. At national level, there was a need for more robust partner coordination efforts, particularly in terms of identifying and scaling best practices from partners. As a result, there were inconsistent vaccination coverage across provinces with varying coverage results. Finally, for a variety of reasons, it was not deemed feasible to pilot innovative modalities, such as proposed integration of COVID-19 and polio campaigns.

Opportunities beyond the COVID-19 vaccine response

Zambia's success in this area obliges us to explore other opportunities, for example, successfully coordinating large teams with multiple stakeholders to handle large-scale adult vaccination campaigns for other preventable diseases. We could also better leverage national partner coordination platform to strengthen health systems and respond to other challenges. The national implementing partner coordinating team should be more objective when reviewing performance, and adopt and scale evidence-informed best practices rapidly. We recommend leveraging the relationships created by the Ministry of Health with traditional, civic, and other leadership structures to implement other interventions.

Lessons

- **Ensure well-established and strong partner coordination.**

Achieving 70 percent vaccination coverage for Zambia required proper coordination among myriad partners.

- **Adapt innovative ways to overcome challenges in an emergency setting.**

The COVID-19 emergency required fast-paced solutions to limit harm to health and the economy. The use of virtual platforms to deliver capacity strengthening sessions and digital technologies to process payments and logistical support for the large numbers of health workers involved in campaigns was essential to the vaccination program's success. Similarly, adoption of responsive service delivery modalities such as switching from the more traditional static (facility-based) approach to structured outreach helped the vaccination program advance.

- **Missed opportunities to adopt some proposed interventions.**

The COVID-19 and polio outbreak in neighboring countries were opportunities for exploring the feasibility and cost-effectiveness of integrating vaccine campaigns. This was not deemed feasible as some coordination team partners believed that differences in approaches (i.e., oral polio vs. injectable COVID-19 vaccines; different target populations) could hinder polio campaign success.

Additional resources

Project-specific reports and publications on COVID-19 vaccination in Zambia:

[JSI website](#)

The National COVID-19 Vaccine Deployment Strategy:

[Ministry of Health Zambia Website](#)

WHO COVID-19 Vaccine Equity and Deployment Information:

[WHO website](#)

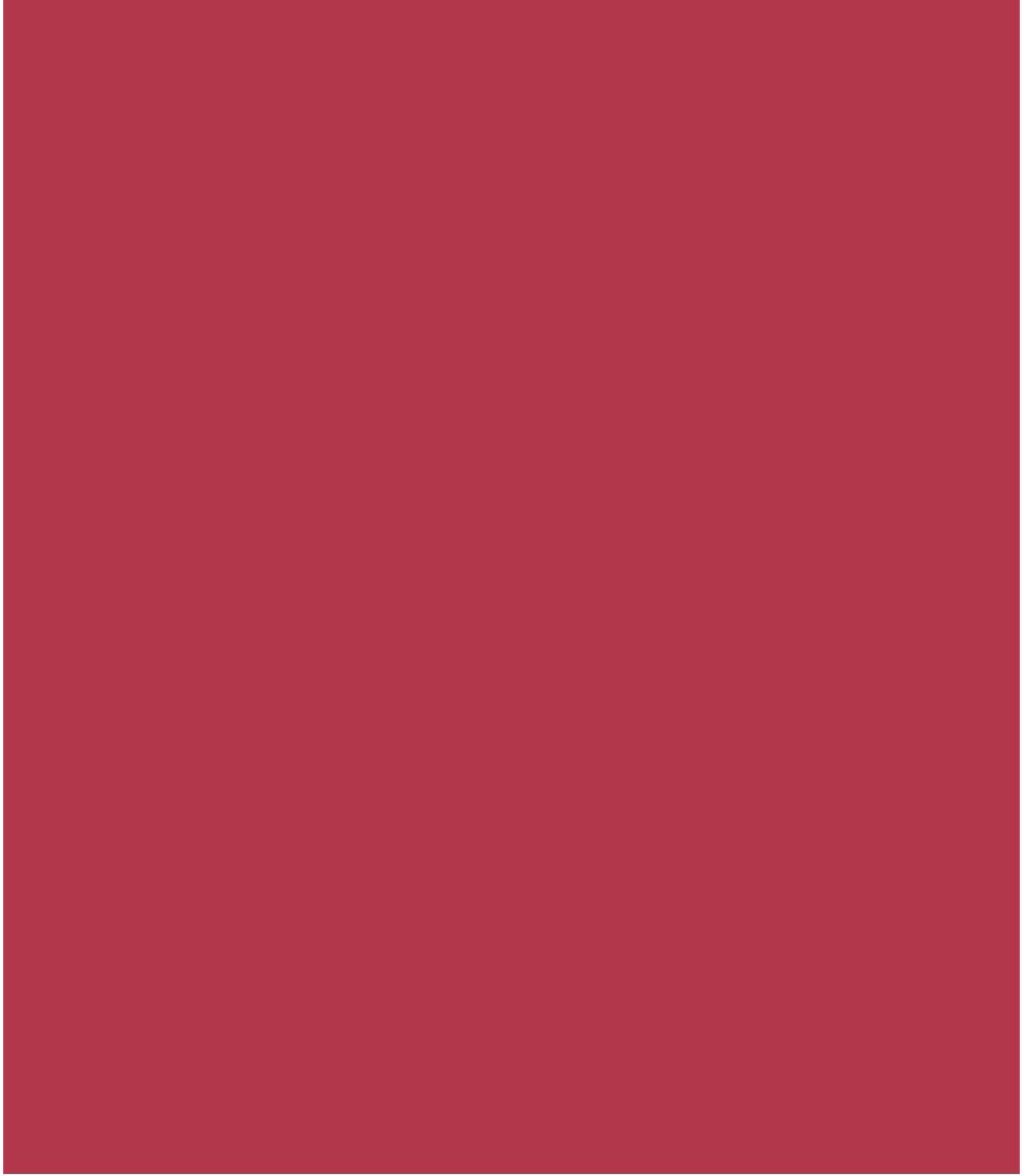
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